EP 0 924 618 A2

FIG. 1

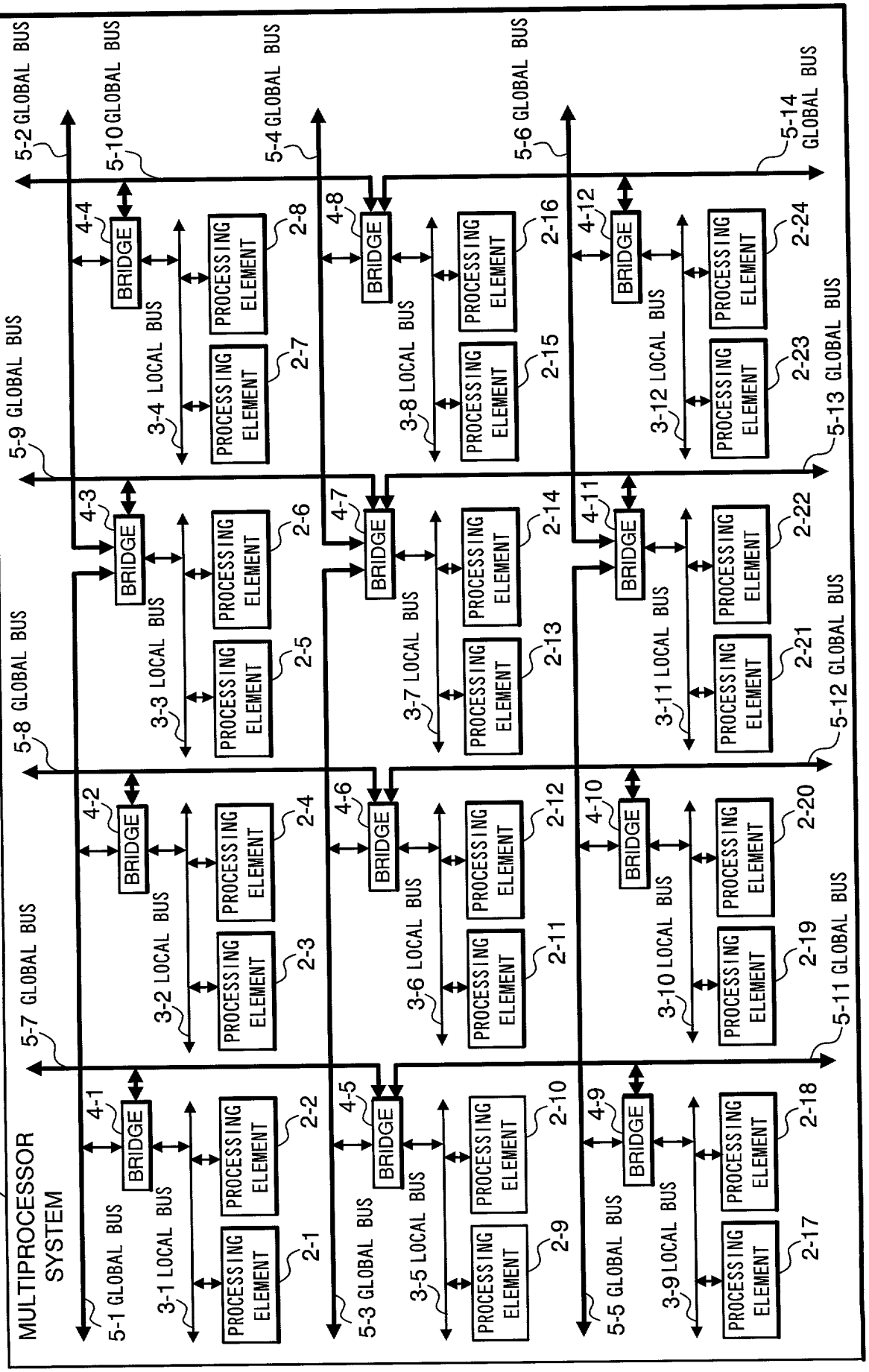
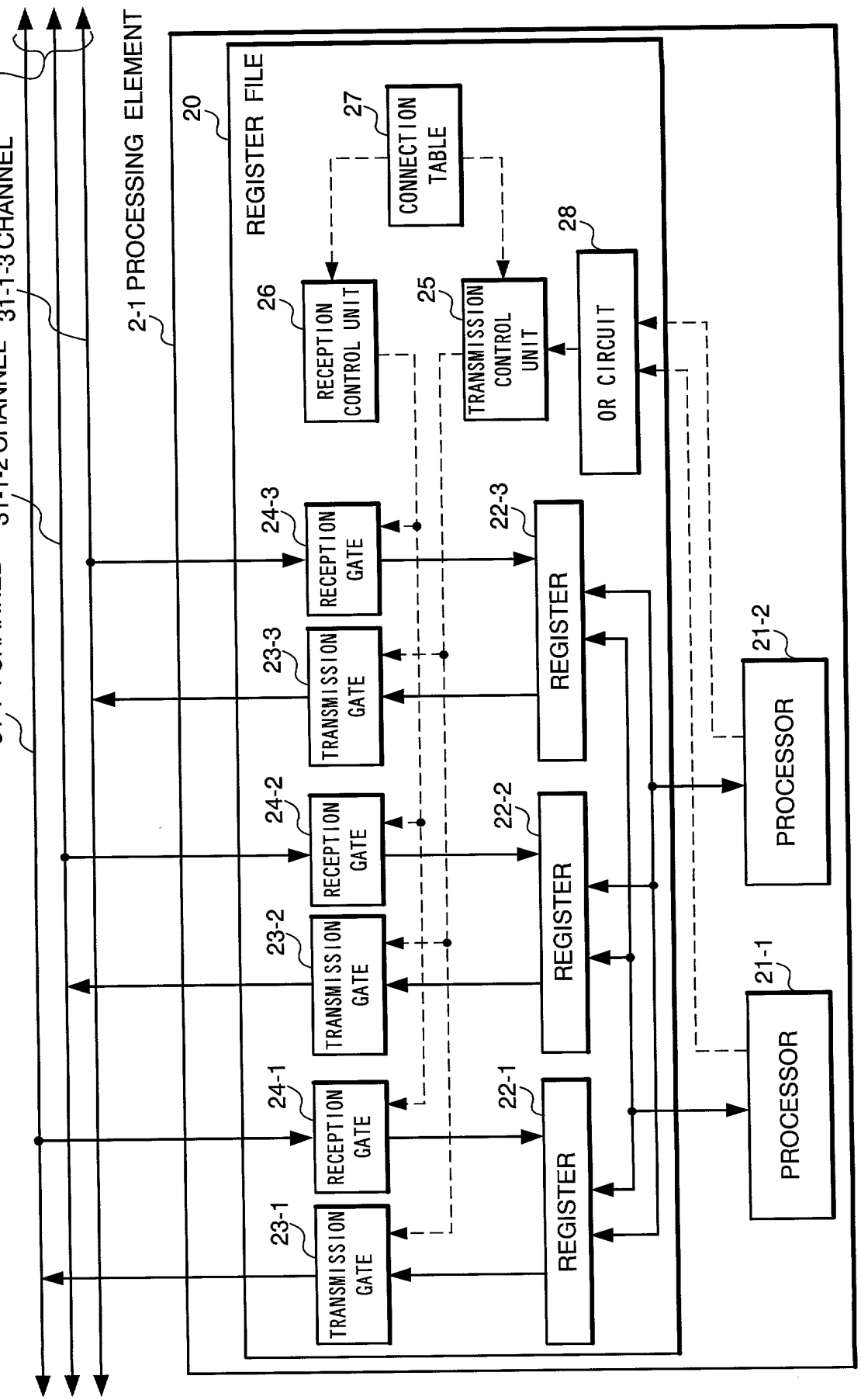


FIG. 2


LOCAL BUS
3-1
31-1-1 CHANNEL
31-1-2 CHANNEL
31-1-3 CHANNEL
2-1 PROCESSING ELEMENT
20
REGISTER FILE
27
CONNECTION TABLE
26
RECEPTION CONTROL UNIT
25
TRANSMISSION CONTROL UNIT
28
OR CIRCUIT
24-3
RECEPTION GATE
22-3
REGISTER
23-3
TRANSMISSION GATE
24-2
RECEPTION GATE
22-2
REGISTER
23-2
TRANSMISSION GATE
24-1
RECEPTION GATE
22-1
REGISTER
23-1
TRANSMISSION GATE
21-2
PROCESSOR
21-1
PROCESSOR

Docket Number

FIG. 3

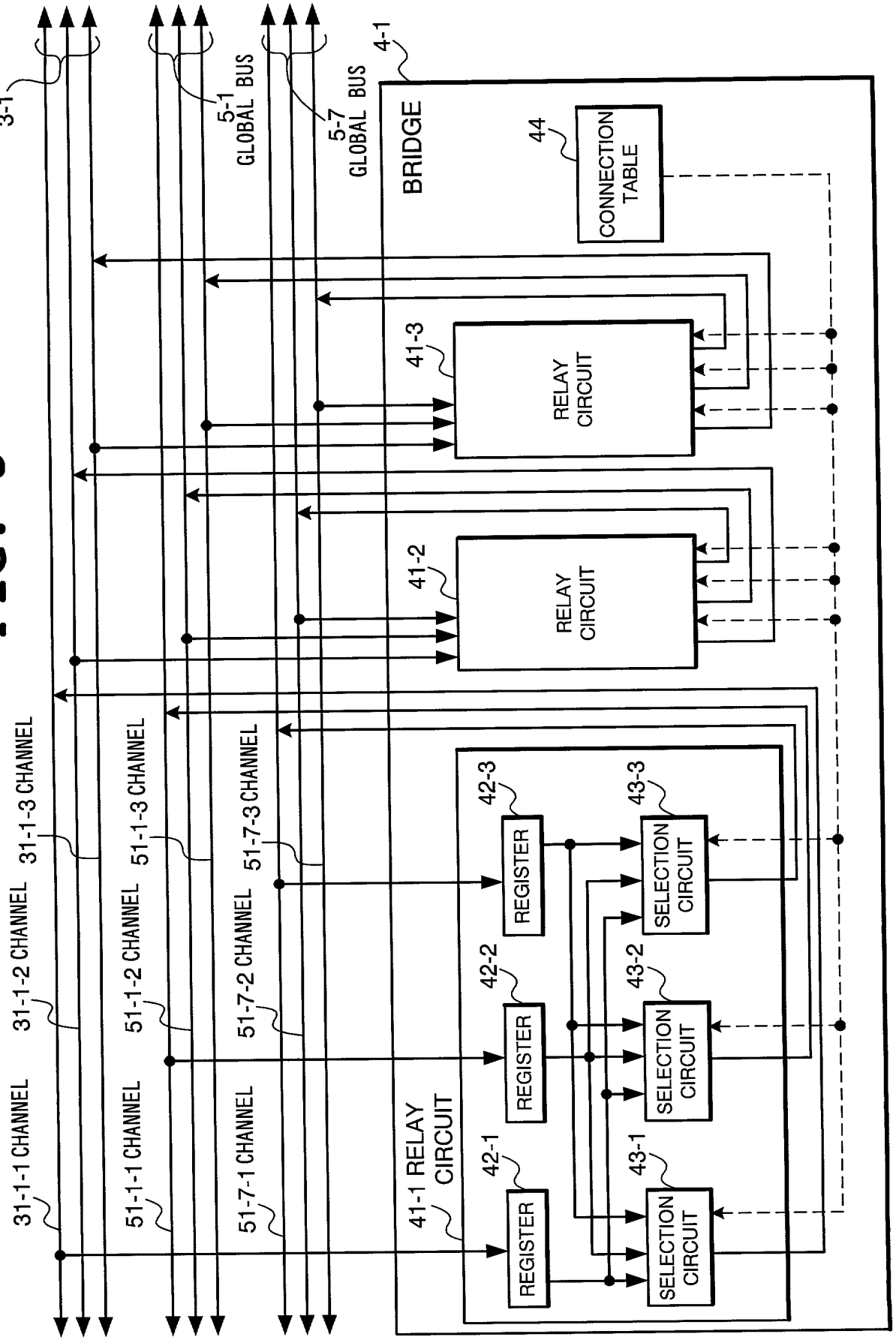


FIG. 4

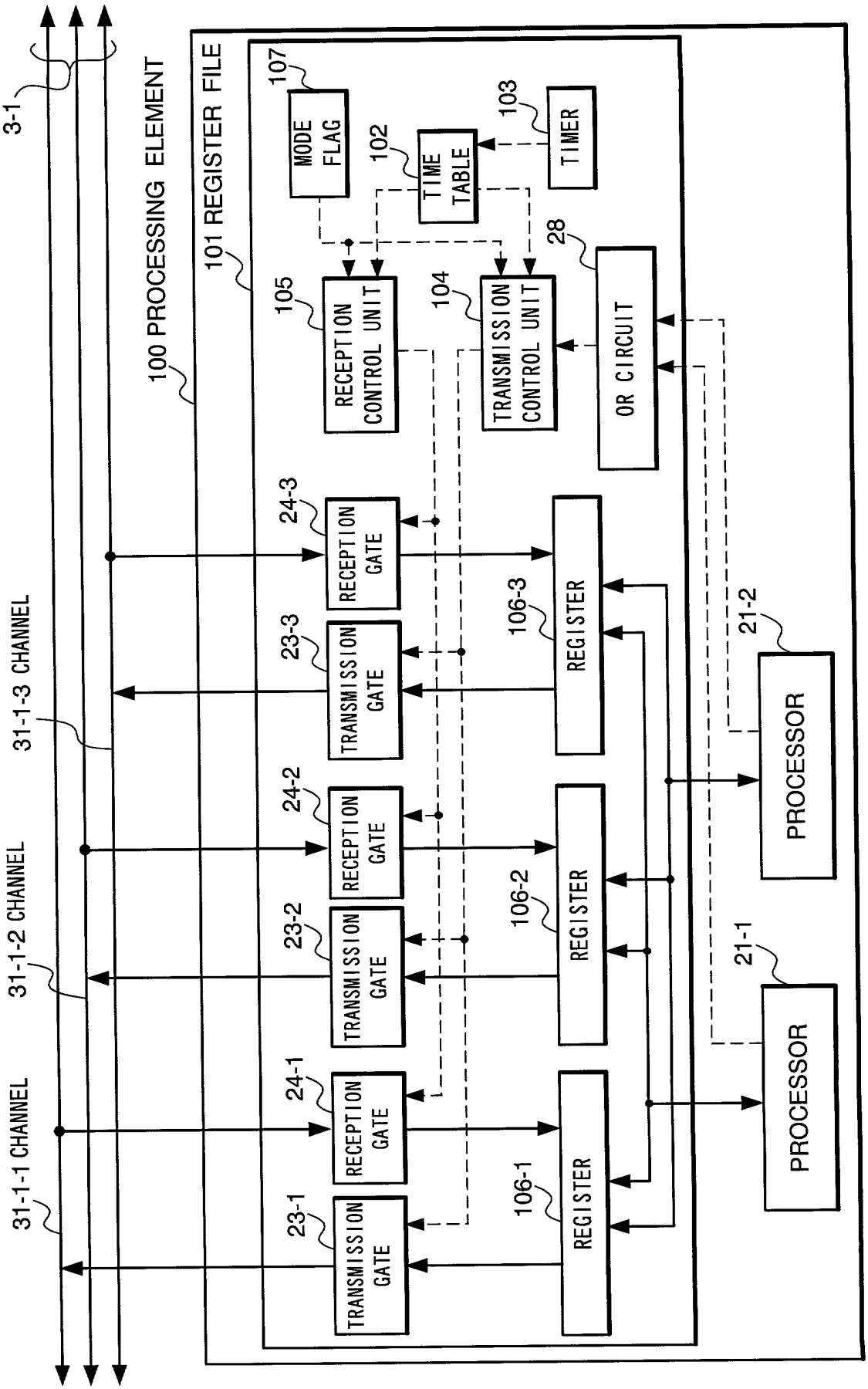
	REGISTER 22-1	REGISTER 22-2	REGISTER 22-3
TRANSMISSION POSSIBLE / IMPOSSIBLE	○	○	×
RECEPTION POSSIBLE / IMPOSSIBLE	×	○	○

FIG. 5

	TRANSMISSION DESTINATION BUS								
	LOCAL BUS 3-1			GLOBAL BUS 5-1			GLOBAL BUS 5-7		
	CHANNEL 1	CHANNEL 2	CHANNEL 3						
RECEPTION SOURCE BUS	×	GLOBAL BUS 5-7	GLOBAL BUS 5-7						

0042675 "EP0562460

FIG. 6



0004E"E6D6

FIG. 7

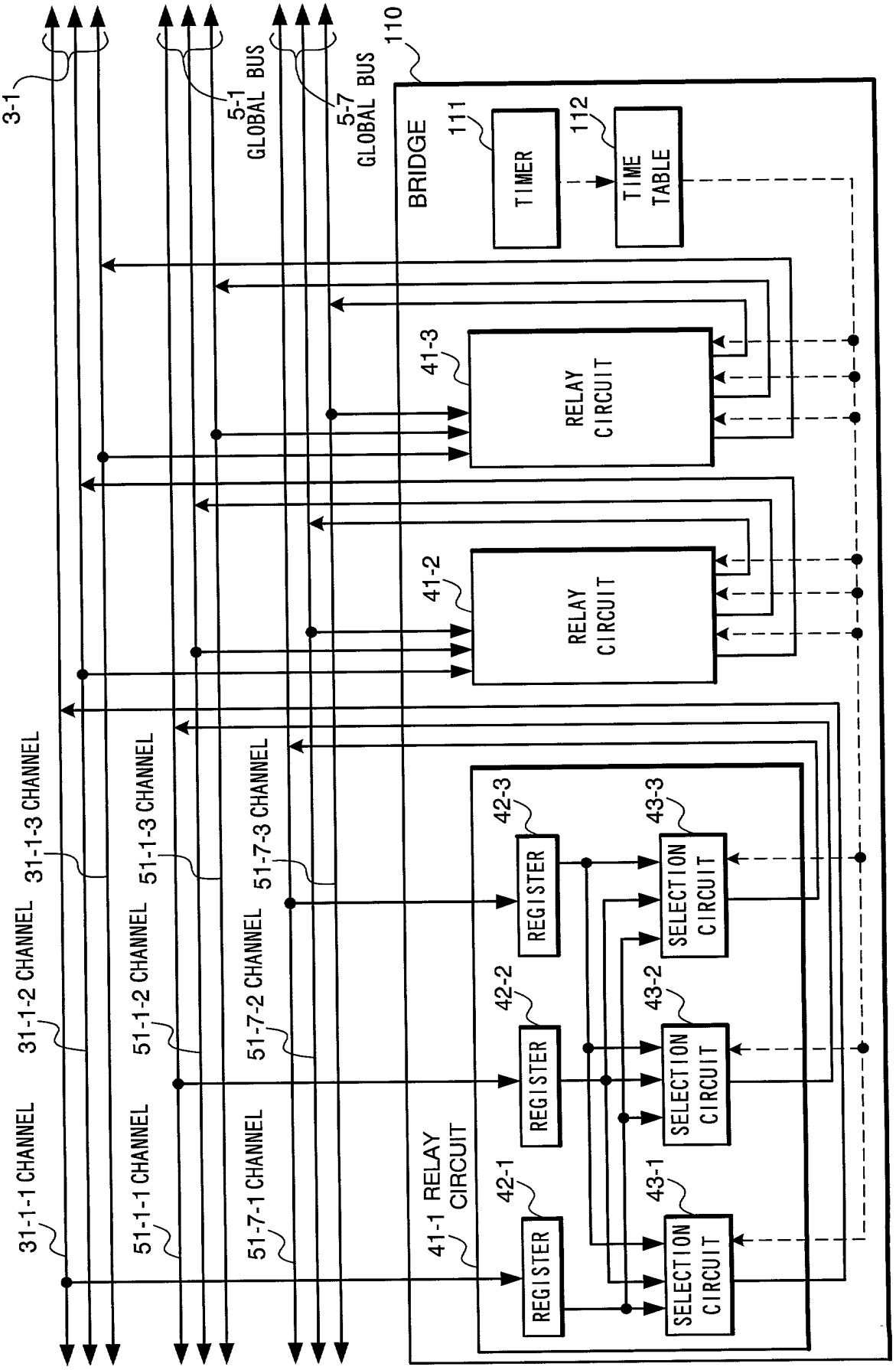


FIG. 8

102

		REGISTER 106-1	REGISTER 106-2	REGISTER 106-3
TIME 1	TRANSMISSION POSSIBLE/ IMPOSSIBLE	○	○	×
	RECEPTION POSSIBLE/ IMPOSSIBLE	×	○	○
TIME 2	TRANSMISSION POSSIBLE/ IMPOSSIBLE	×	×	×
	RECEPTION POSSIBLE/ IMPOSSIBLE	×	×	×
TIME 3	TRANSMISSION POSSIBLE/ IMPOSSIBLE	○	×	×
	RECEPTION POSSIBLE/ IMPOSSIBLE	×	×	○
• • •				

D-2002-82-6-2006

FIG. 9

		TRANSMISSION DESTINATION BUS								
		LOCAL BUS 3-1			GLOBAL BUS 5-1			GLOBAL BUS 5-7		
		CHANNEL 1	CHANNEL 2	CHANNEL 3						
RECEPTION SOURCE BUS	TIME 1	×	×	GLOBAL BUS 5-7						
	TIME 2	×	×	×						
	TIME 3	GLOBAL BUS 5-1	×	×						
	• • •									

0/0/0/

FIG. 11

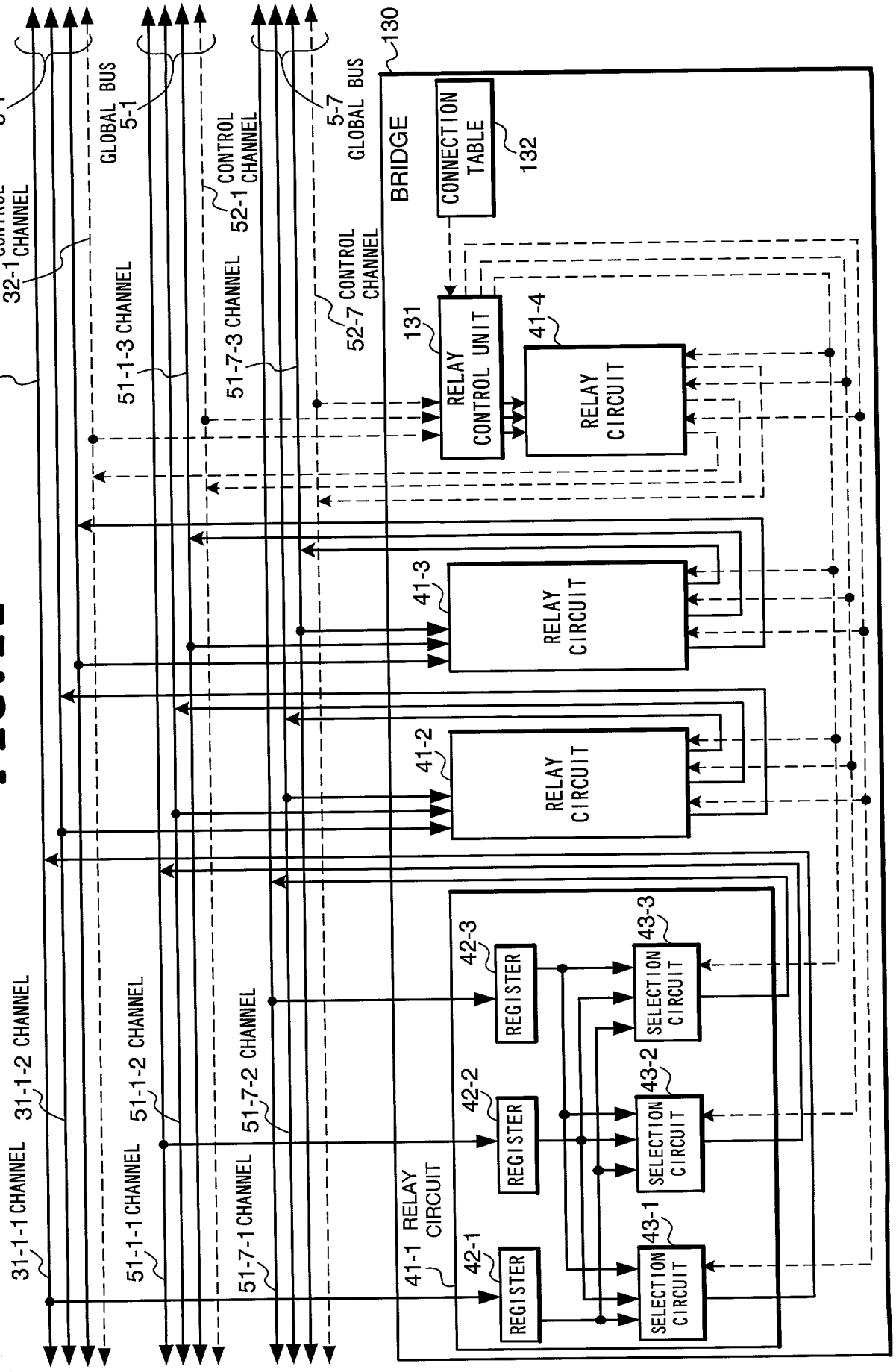

LOCAL BUS 3-1
GLOBAL BUS 5-1
GLOBAL BUS 5-7
CONTROL CHANNEL 32-1
CONTROL CHANNEL 52-1
CONTROL CHANNEL 52-7
31-1-3 CHANNEL
51-1-3 CHANNEL
51-7-3 CHANNEL
31-1-2 CHANNEL
51-1-2 CHANNEL
51-7-2 CHANNEL
31-1-1 CHANNEL
51-1-1 CHANNEL
51-7-1 CHANNEL
BRIDGE 130
CONNECTION TABLE 132
RELAY CONTROL UNIT 131
RELAY CIRCUIT 41-4
RELAY CIRCUIT 41-3
RELAY CIRCUIT 41-2
41-1 RELAY CIRCUIT
REGISTER 42-3
REGISTER 42-2
REGISTER 42-1
SELECTION CIRCUIT 43-3
SELECTION CIRCUIT 43-2
SELECTION CIRCUIT 43-1

FIG.12

122 CONNECTION TABLE

		REGISTER 126-1	REGISTER 126-2	REGISTER 126-3
CONNECTION 1	TRANSMISSION POSSIBLE / IMPOSSIBLE	○	○	×
	RECEPTION POSSIBLE / IMPOSSIBLE	×	○	○
CONNECTION 2	TRANSMISSION POSSIBLE / IMPOSSIBLE	×	×	×
	RECEPTION POSSIBLE / IMPOSSIBLE	×	×	×
CONNECTION 3	TRANSMISSION POSSIBLE / IMPOSSIBLE	○	×	×
	RECEPTION POSSIBLE / IMPOSSIBLE	×	×	○
・ ・ ・				

FIG.13

123 TIME TABLE

	CONNECTION 1	CONNECTION 2	CONNECTION 3
TIME 1	○	○	×
TIME 2	×	×	×
TIME 3	×	×	○
⋮			

FIG.14

132 CONNECTION TABLE

	TRANSMISSION DESTINATION BUS											
	LOCAL BUS 3-1				GLOBAL BUS 5-1				GLOBAL BUS 5-7			
	CONNECTION 1	CONNECTION 2	CONNECTION 3	. . .								
RECEPTION SOURCE BUS	GLOBAL BUS 5-1	×	GLOBAL BUS 5-7									
NEW CONNECTION NUMBER	CONNECTION 2	×	CONNECTION 1									

EP 2 629 469 A1

FIG.15

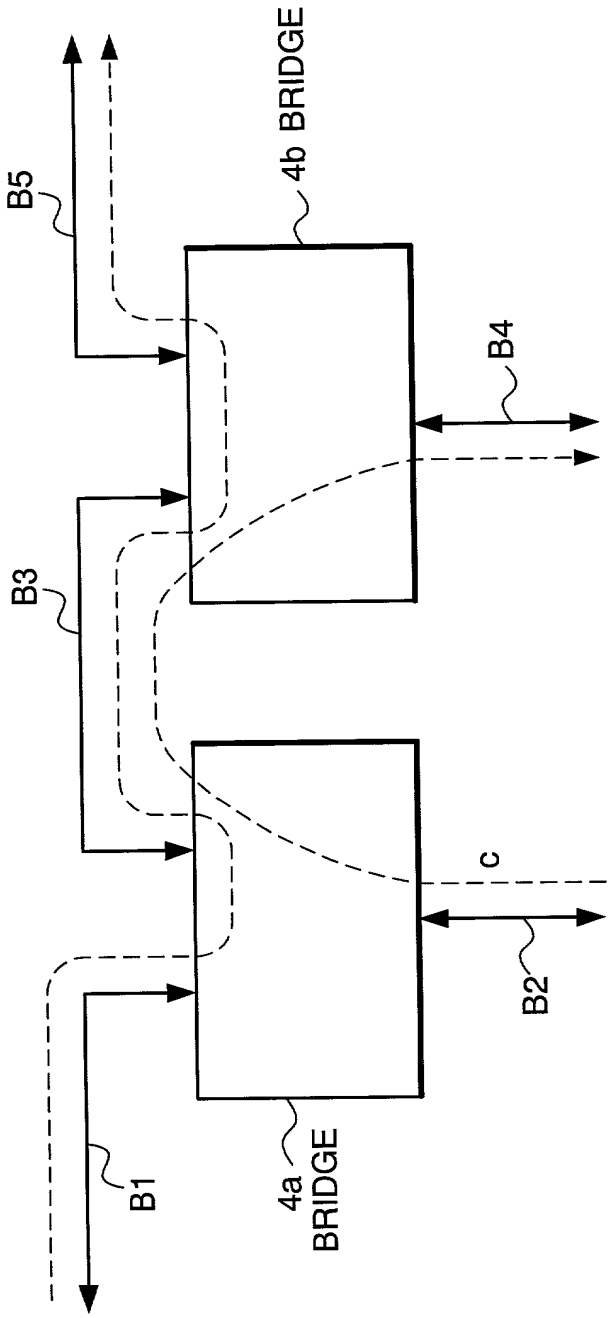


FIG. 16

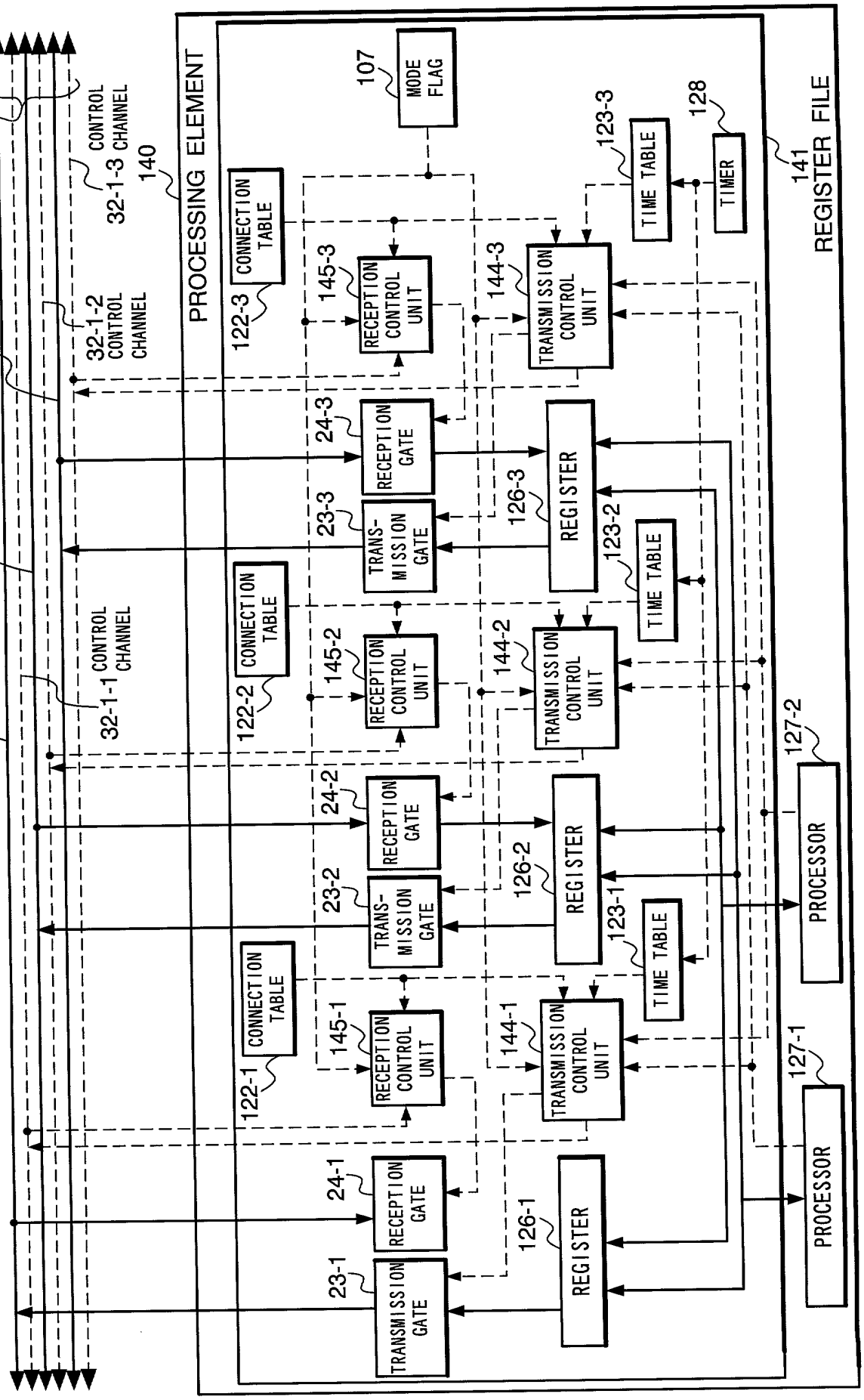
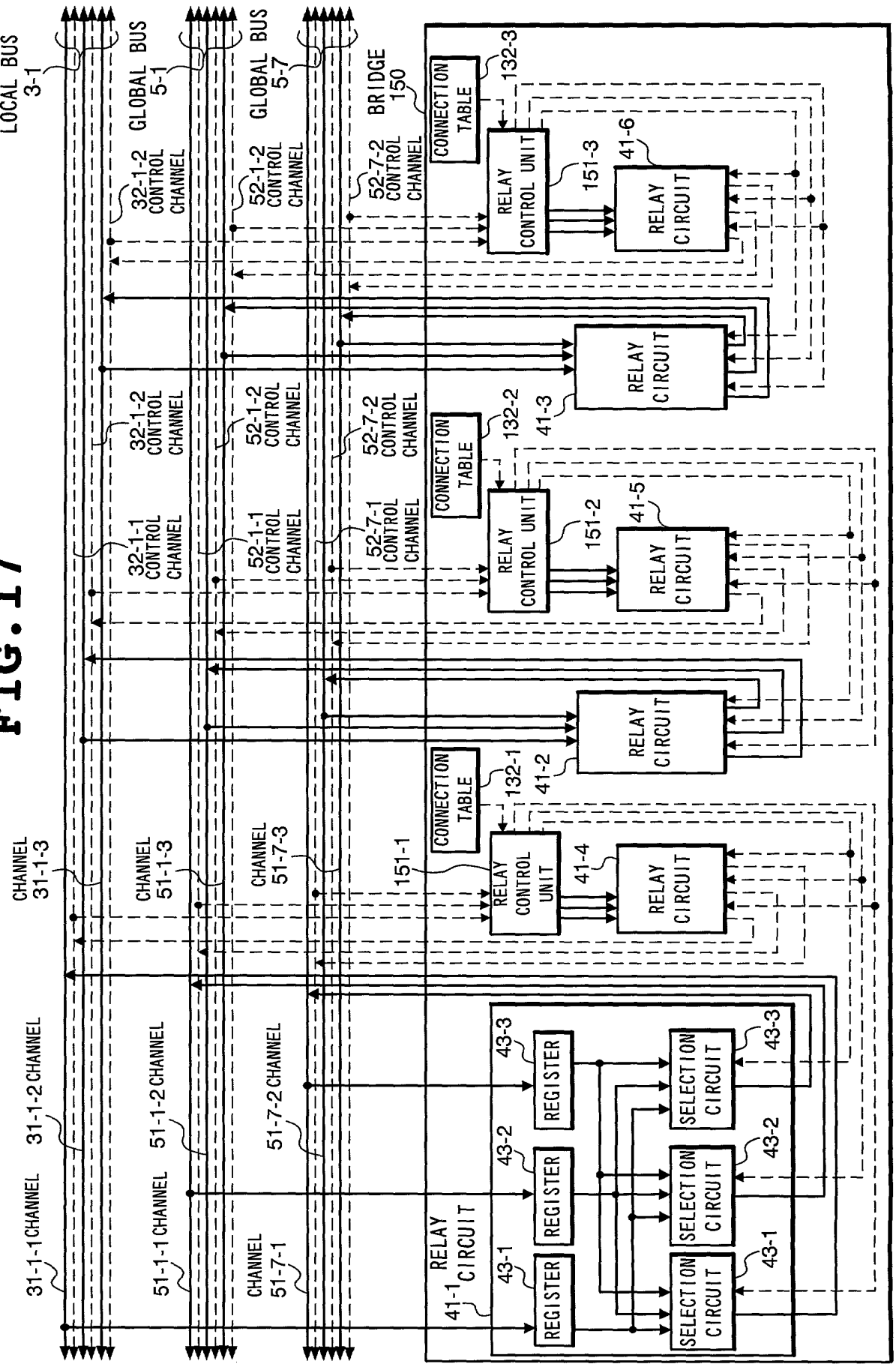
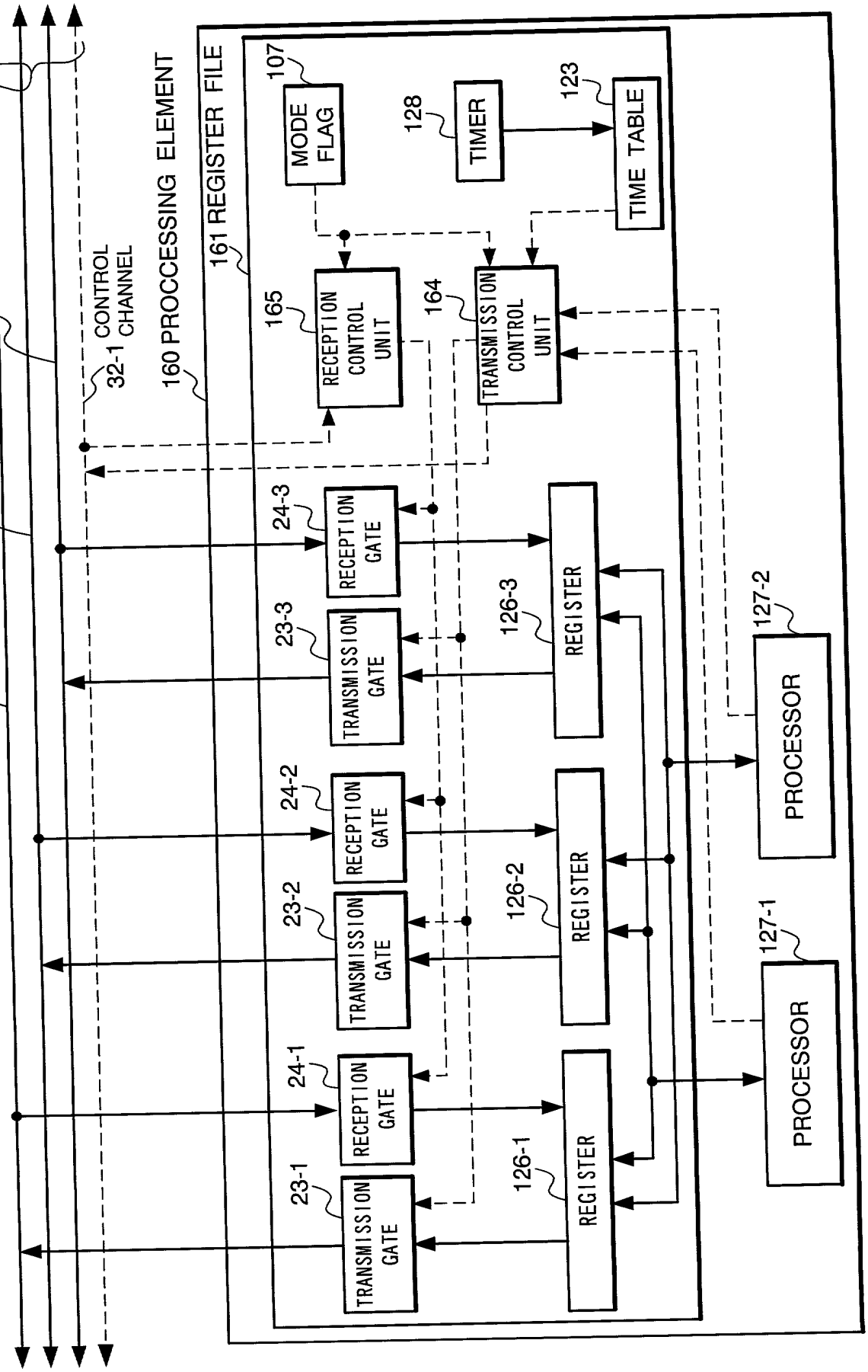

LOCAL BUS 3-1
31-1-1 CHANNEL
31-1-2 CHANNEL
31-1-3 CHANNEL
32-1-1 CONTROL CHANNEL
32-1-2 CONTROL CHANNEL
32-1-3 CONTROL CHANNEL
140
PROCESSING ELEMENT
141
REGISTER FILE
107
MODE FLAG
128
TIMER
122-1
122-2
122-3
CONNECTION TABLE
123-1
123-2
123-3
TIME TABLE
126-1
126-2
126-3
REGISTER
127-1
127-2
PROCESSOR
144-1
144-2
144-3
TRANSMISSION CONTROL UNIT
145-1
145-2
145-3
RECEPTION CONTROL UNIT
23-1
23-2
23-3
TRANSMISSION GATE
24-1
24-2
24-3
RECEPTION GATE

FIG. 17


LOCAL BUS 3-1
GLOBAL BUS 5-1
GLOBAL BUS 5-7
BRIDGE 150
32-1-2 CONTROL CHANNEL
52-1-2 CONTROL CHANNEL
52-7-2 CONTROL CHANNEL
32-1-1 CONTROL CHANNEL
52-1-1 CONTROL CHANNEL
52-7-1 CONTROL CHANNEL
CONNECTION TABLE
132-3
132-2
132-1
RELAY CONTROL UNIT
151-3
151-2
151-1
RELAY CIRCUIT
41-6
41-5
41-3
41-2
41-4
CHANNEL 31-1-3
CHANNEL 51-1-3
CHANNEL 51-7-3
31-1-2 CHANNEL
51-1-2 CHANNEL
51-7-2 CHANNEL
31-1-1 CHANNEL
51-1-1 CHANNEL
CHANNEL 51-7-1
RELAY CIRCUIT 41-1
43-1
43-2
43-3
REGISTER
SELECTION CIRCUIT

0/0/0/

FIG. 19


LOCAL BUS
31-1-1 CHANNEL
31-1-2 CHANNEL
31-1-3 CHANNEL
3-1
CONTROL CHANNEL
32-1
160 PROCCESSING ELEMENT
161 REGISTER FILE
MODE FLAG
107
TIMER
128
TIME TABLE
123
RECEPTION CONTROL UNIT
165
TRANSMISSION CONTROL UNIT
164
RECEPTION GATE
24-3
TRANSMISSION GATE
23-3
REGISTER
126-3
PROCESSOR
127-2
RECEPTION GATE
24-2
TRANSMISSION GATE
23-2
REGISTER
126-2
PROCESSOR
127-1
RECEPTION GATE
24-1
TRANSMISSION GATE
23-1
REGISTER
126-1

DOCKET ALARM

FIG. 20

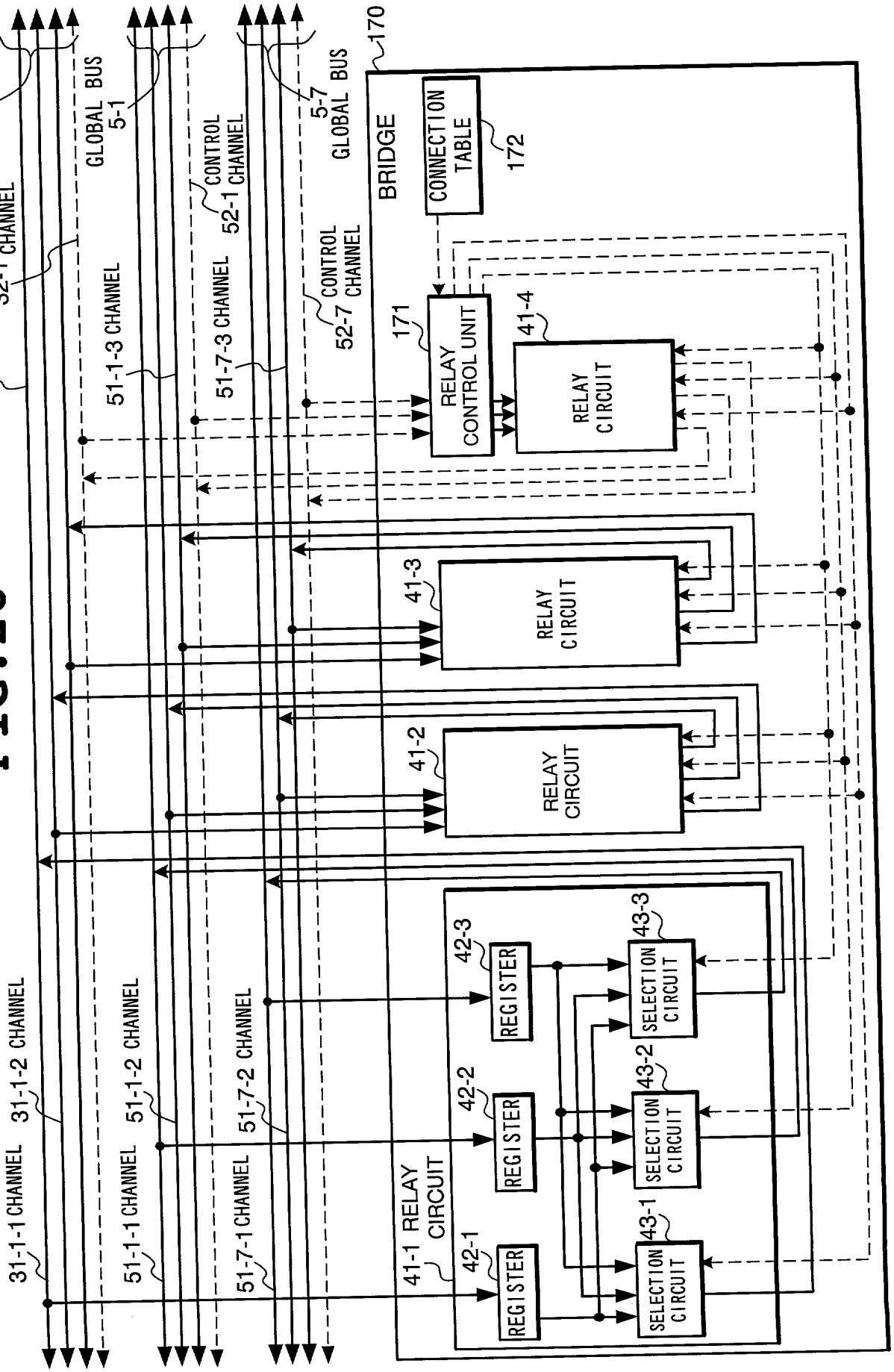


FIG.21

	RECEPTION SOURCE BUS						
	LOCAL BUS 3-7		GLOBAL BUS 5-3				. . .
DESTINATION DATA	X > 6	X < 5	X > 6	X = 5 OR 6 AND Y > 2	X = 5 OR 6 AND Y < 2	X = 5 OR 6 AND Y = 2	. . .
TRANSMISSION DESTINATION BUS	GLOBAL BUS 5-4	GLOBAL BUS 5-3	GLOBAL BUS 5-4	GLOBAL BUS 5-9	GLOBAL BUS 5-13	LOCAL BUS 3-7	

FIG.22

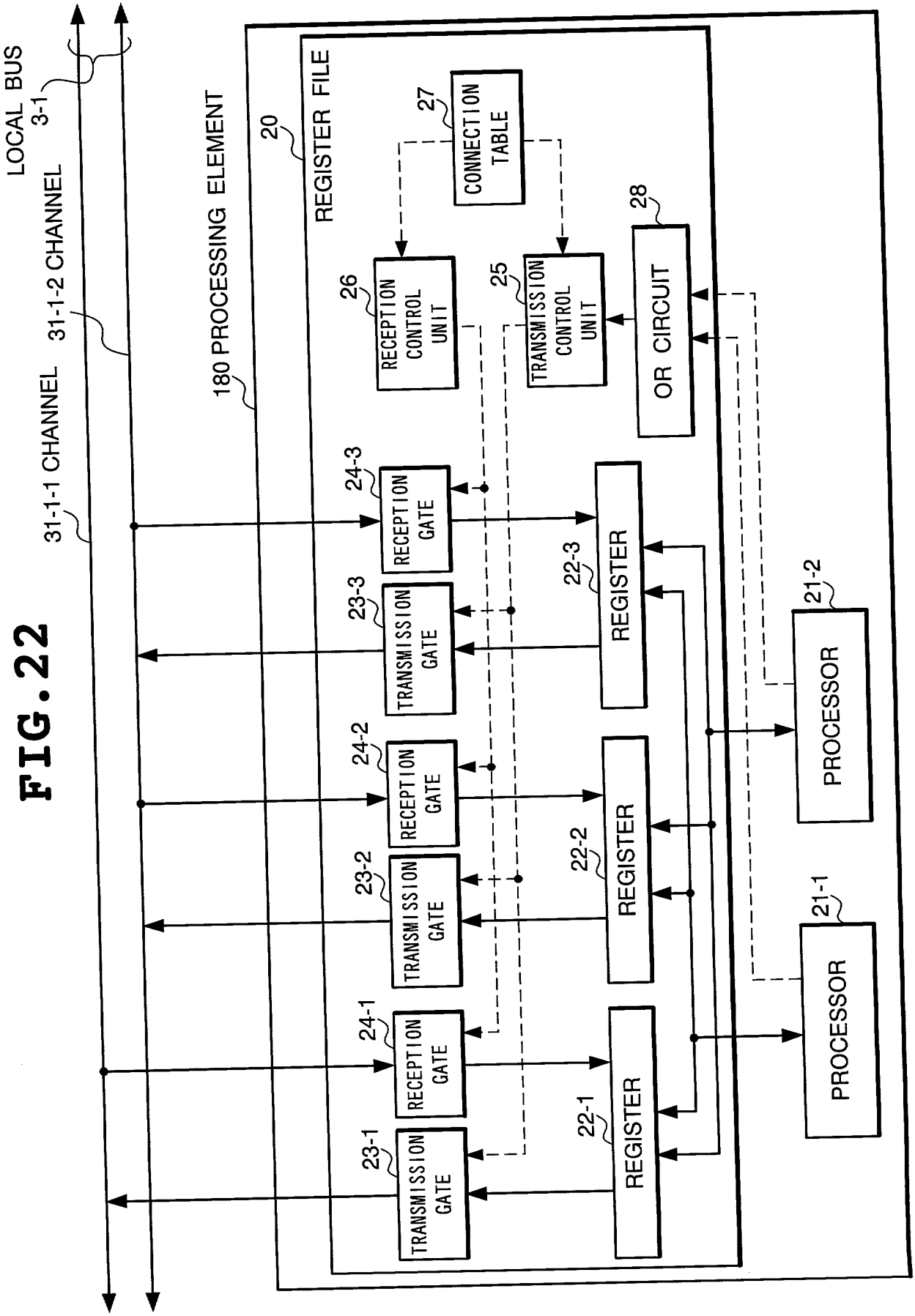

LOCAL BUS
3-1
31-1-2 CHANNEL
31-1-1 CHANNEL
180 PROCESSING ELEMENT
20
REGISTER FILE
27
CONNECTION TABLE
26
RECEPTION CONTROL UNIT
25
TRANSMISSION CONTROL UNIT
28
OR CIRCUIT
24-3
RECEPTION GATE
23-3
TRANSMISSION GATE
22-3
REGISTER
24-2
RECEPTION GATE
23-2
TRANSMISSION GATE
22-2
REGISTER
24-1
RECEPTION GATE
23-1
TRANSMISSION GATE
22-1
REGISTER
21-2
PROCESSOR
21-1
PROCESSOR

FIG.23

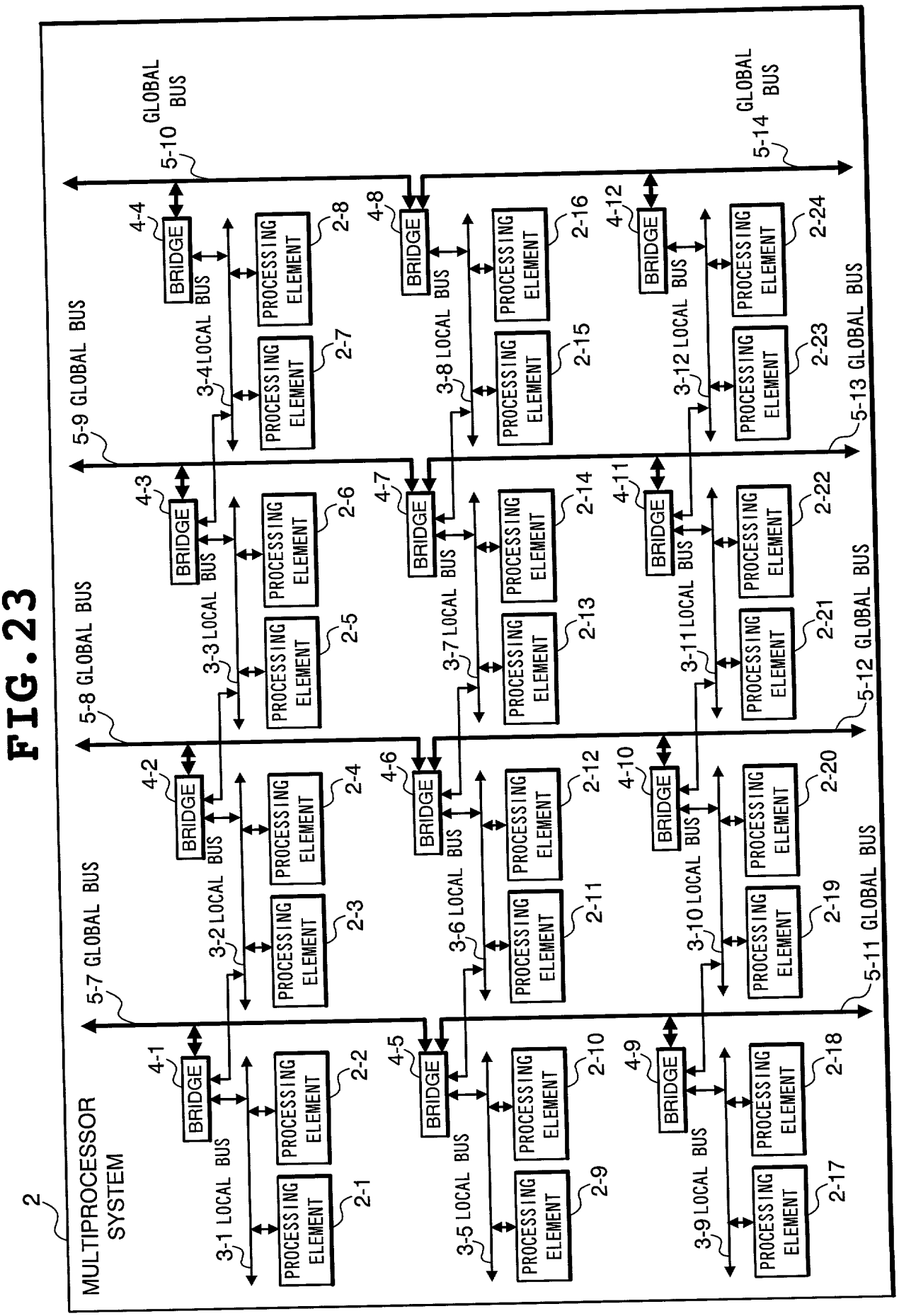
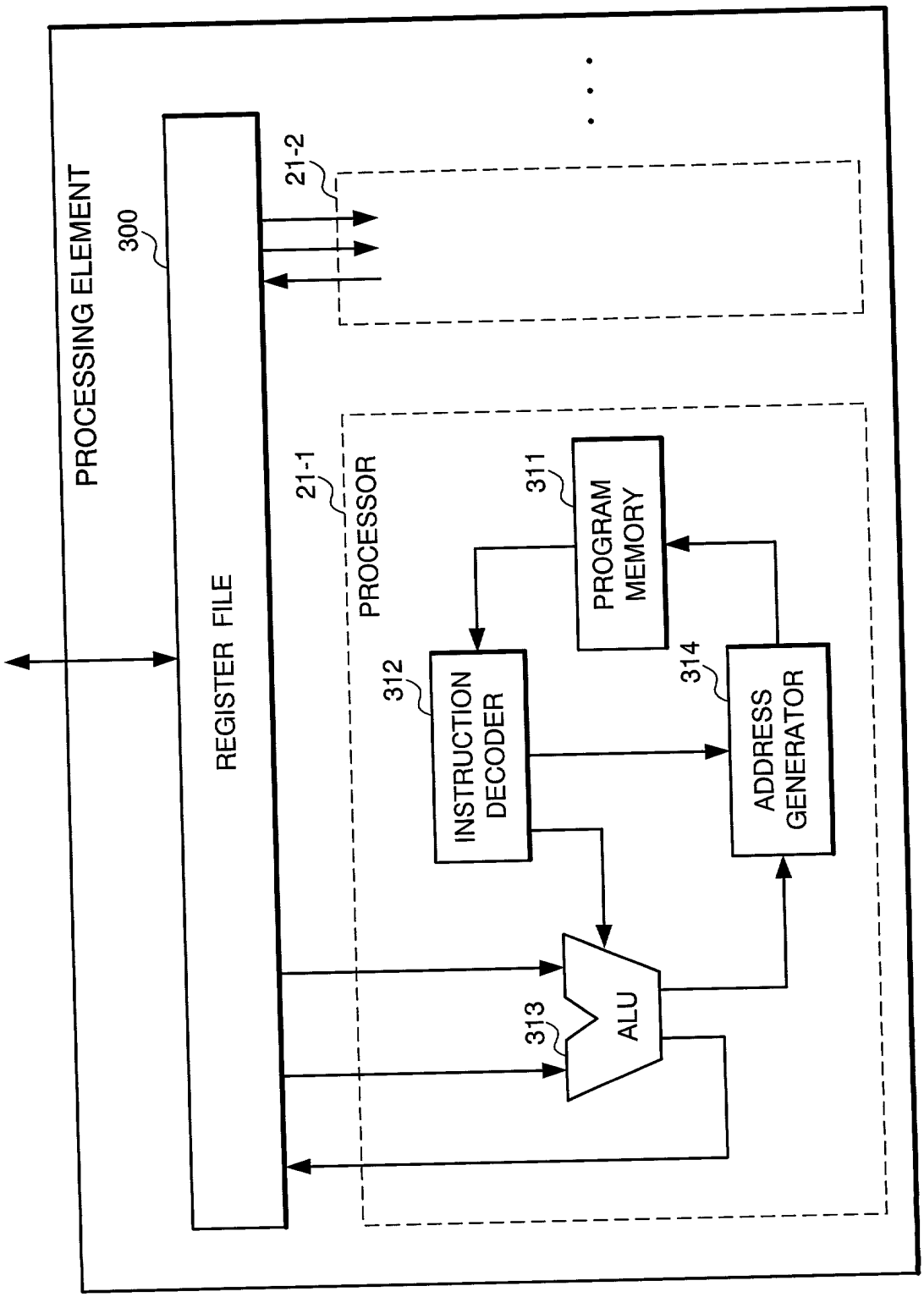

2
MULTIPROCESSOR SYSTEM
5-7 GLOBAL BUS
5-8 GLOBAL BUS
5-9 GLOBAL BUS
5-10 GLOBAL BUS
5-11 GLOBAL BUS
5-12 GLOBAL BUS
5-13 GLOBAL BUS
5-14 GLOBAL BUS
3-1 LOCAL BUS
3-2 LOCAL BUS
3-3 LOCAL BUS
3-4 LOCAL BUS
3-5 LOCAL BUS
3-6 LOCAL BUS
3-7 LOCAL BUS
3-8 LOCAL BUS
3-9 LOCAL BUS
3-10 LOCAL BUS
3-11 LOCAL BUS
3-12 LOCAL BUS
4-1 BRIDGE
4-2 BRIDGE
4-3 BRIDGE
4-4 BRIDGE
4-5 BRIDGE
4-6 BRIDGE
4-7 BRIDGE
4-8 BRIDGE
4-9 BRIDGE
4-10 BRIDGE
4-11 BRIDGE
4-12 BRIDGE
PROCESSING ELEMENT
2-1
2-2
2-3
2-4
2-5
2-6
2-7
2-8
2-9
2-10
2-11
2-12
2-13
2-14
2-15
2-16
2-17
2-18
2-19
2-20
2-21
2-22
2-23
2-24

FIG.24


PROCESSING ELEMENT
300
REGISTER FILE
21-2
21-1
PROCESSOR
311
PROGRAM MEMORY
312
INSTRUCTION DECODER
314
ADDRESS GENERATOR
313
ALU